

Munich Cancer Registry



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ICD-10 C56, D39.1: Ovarian cancer

Survival

Year of diagnosis	1988-1997	1998-2014
Patients	1,585	7,581
Diseases	1,585	7,601
Cases evaluated	1,384	5,609
Creation date	03/02/2016	
Export date	12/23/2015	
Population (females)	2.36 m	



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<http://www.tumorregister-muenchen.de/en>

http://www.tumorregister-muenchen.de/en/facts/surv/sC56D_E-ICD-10-C56-D39.1-Ovarian-cancer-survival.pdf

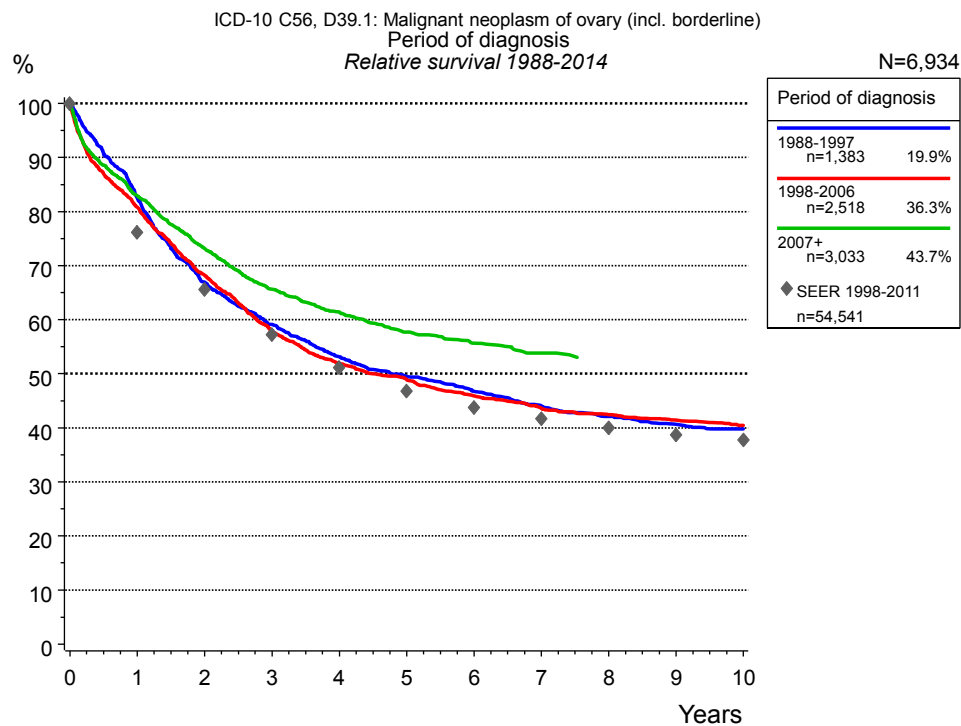


Figure 1a. Relative survival of patients with ovarian cancer by period of diagnosis. Included in the evaluation are 6,934 cases diagnosed between 1988 and 2014.

The presented survival curves are derived from clinical records with valid follow-up informations, which means that death certificate cases (DCO) cases are omitted from the analysis. With this one restriction, the MCR has provided population-based statistics since 1998, collecting data on all cancer cases in the region of southern Bavaria. Historical data of previous time periods can be heavily selected, therefore, univariate survival comparisons of the presented time periods must be carefully considered. Nonetheless, all calculable survival curves are depicted to facilitate the comparison of long time follow-up analyses of relative survival between particular cancers.

Years	Period of diagnosis					
	1988-1997 n=1,383		1998-2006 n=2,518		2007+ n=3,033	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	81.1	82.5	79.2	80.8	81.4	82.9
2	64.9	66.9	65.8	68.2	70.9	73.1
3	56.5	59.1	55.1	57.9	62.9	65.7
4	50.1	53.1	48.8	51.9	57.9	61.4
5	46.0	49.5	45.3	48.9	53.8	57.7
6	42.8	46.7	42.0	45.9	51.2	55.7
7	39.8	44.0	39.4	43.6	49.0	53.8
8	37.5	42.1	37.8	42.5		
9	35.7	40.6	36.4	41.4		
10	34.5	39.8	35.1	40.5		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by period of diagnosis for period 1988-2014 (N=6,934).

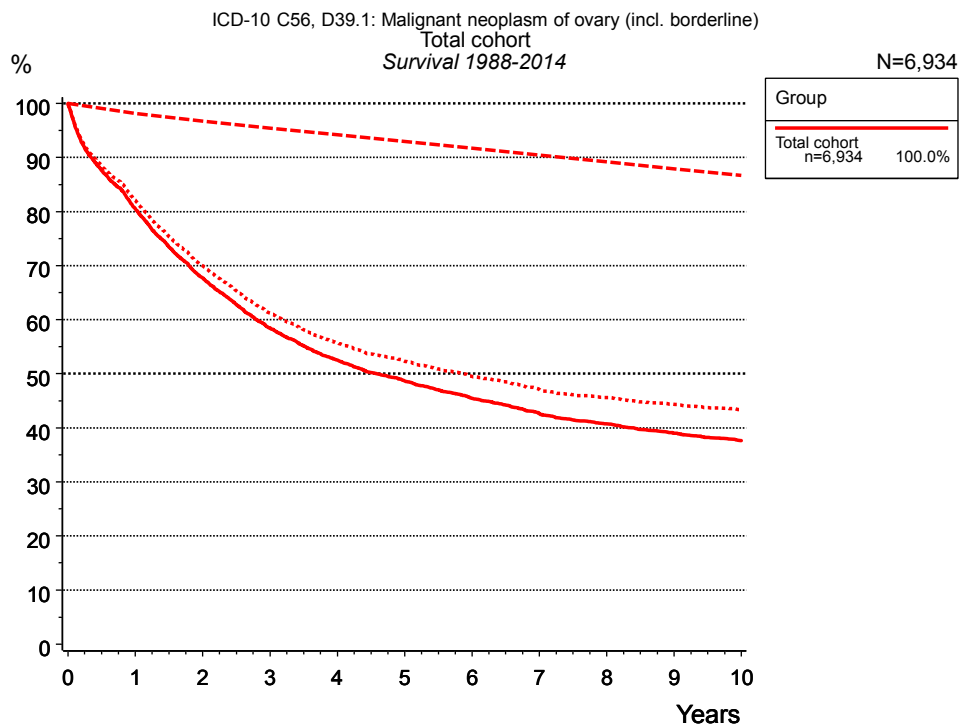


Figure 2a. Observed, expected and relative survival of the total cohort with ovarian cancer. Included in the evaluation are 6,934 cases diagnosed between 1988 and 2014.

Years	Group	
	Total cohort n=6,934	
	obs. %	rel. %
0	100.0	100.0
1	80.5	82.1
2	67.7	70.0
3	58.5	61.2
4	52.5	55.7
5	48.6	52.3
6	45.4	49.5
7	42.6	47.1
8	40.7	45.6
9	39.0	44.3
10	37.6	43.4

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with ovarian cancer for period 1988-2014 (N=6,934).

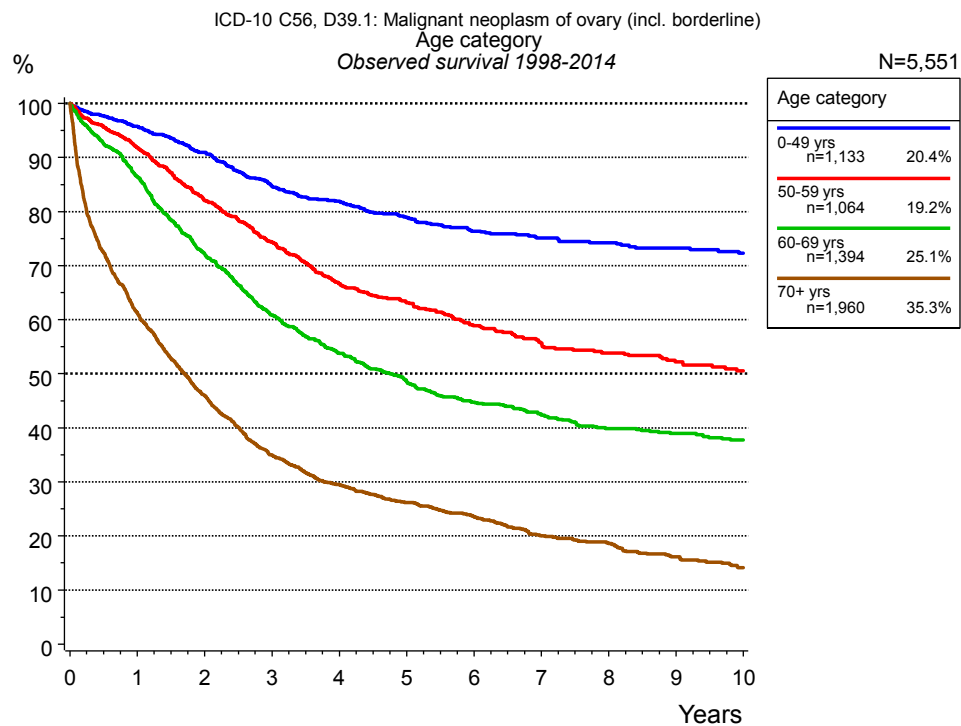


Figure 3a. Observed survival of patients with ovarian cancer by age category. Included in the evaluation are 5,551 cases diagnosed between 1998 and 2014.

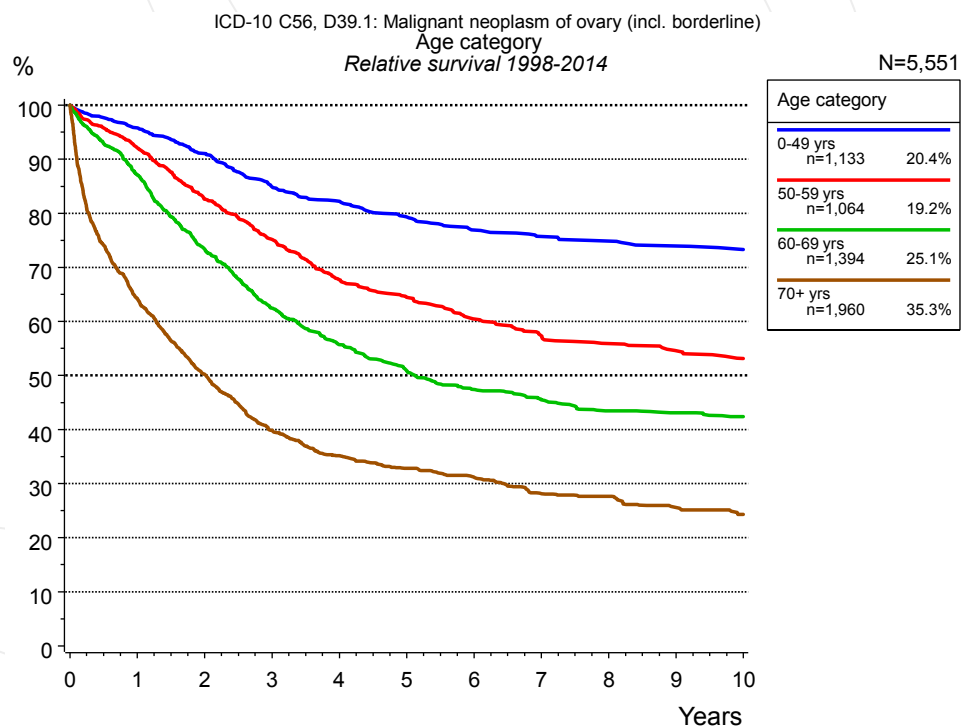


Figure 3b. Relative survival of patients with ovarian cancer by age category. Included in the evaluation are 5,551 cases diagnosed between 1998 and 2014.

Years	Age category							
	0-49 yrs n=1,133		50-59 yrs n=1,064		60-69 yrs n=1,394		70+ yrs n=1,960	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.7	95.8	91.8	92.1	86.5	87.1	61.3	64.2
2	90.9	91.0	82.0	82.6	72.1	73.3	45.9	50.2
3	84.7	84.9	74.4	75.2	60.9	62.4	35.0	39.9
4	81.9	82.2	66.7	67.7	53.8	55.7	29.5	35.2
5	78.8	79.3	63.2	64.5	48.6	50.9	26.2	32.8
6	76.4	76.9	58.9	60.5	44.8	47.4	23.6	31.2
7	75.1	75.7	55.6	57.3	42.3	45.5	20.1	28.1
8	74.2	74.9	53.9	55.9	39.9	43.4	18.6	27.7
9	73.2	73.9	52.2	54.5	39.0	43.1	16.1	25.6
10	72.3	73.3	50.6	53.1	37.8	42.4	14.1	24.3

Table 3c. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by age category for period 1998-2014 (N=5,551).

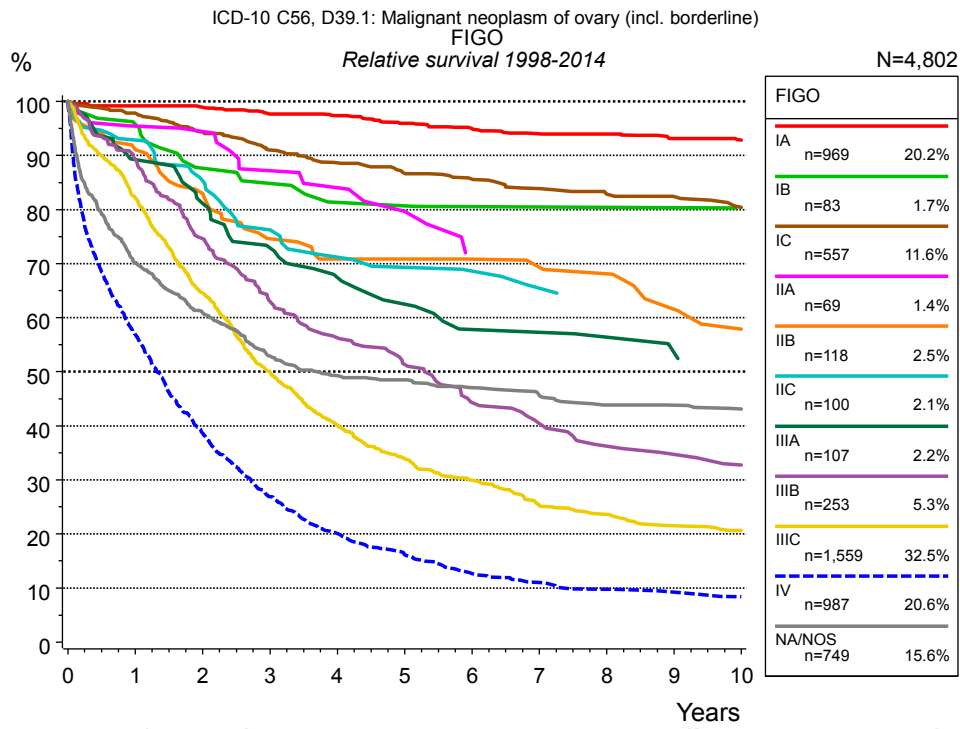


Figure 4a. Relative survival of patients with ovarian cancer by FIGO. For 5,054 of 5,551 cases diagnosed between 1998 and 2014 valid data could be obtained for this item. For a total of 4,802 cases an evaluable classification was established. The grey line represents the subgroup of 749 patients with missing values regarding FIGO (13.5% of 5,551 patients, the percent values of all other categories are related to n=4,802).

FIGO														
Years	IA n=969		IB n=83		IC n=557		IIA n=69		IIB n=118		IIC n=100		IIIA n=107	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	98.3	99.2	95.0	95.8	96.6	97.8	94.0	95.4	89.5	91.1	92.0	92.9	88.3	89.2
2	96.8	98.9	85.6	87.6	92.2	94.3	92.5	94.4	80.2	82.9	83.4	85.3	79.2	81.1
3	94.5	97.6	82.5	84.8	87.8	91.0	84.0	87.2	71.2	74.6	74.2	76.2	70.9	72.9
4	93.2	97.4	77.6	81.3	84.7	88.6	80.0	84.0	66.8	70.9	68.1	71.2	65.0	67.4
5	90.7	95.9	77.6	80.6	81.9	86.7	73.3	79.7	66.8	70.9	65.6	69.3	60.1	62.5
6	88.7	94.9	75.6	80.5	80.0	85.6			65.2	70.8	64.2	68.6	54.4	57.8
7	86.7	94.0	75.6	80.4	77.5	83.8			63.5	69.3	60.9	65.4	54.4	57.3
8	86.2	94.0	75.6	80.4	75.3	82.8			61.8	68.1	59.2	64.0	52.4	56.4
9	83.6	93.2	75.6	80.3	74.2	82.4			55.3	61.5	59.2	63.2	49.8	53.5
10	82.3	92.9	71.4	80.1	71.8	80.4			50.2	57.9	59.2	62.4	47.2	50.3

<i>cont'd</i>	FIGO							
	IIIB n=253		IIIC n=1,559		IV n=987		NA/NOS n=749	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
Years								
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	88.2	89.2	80.9	82.2	55.4	56.9	68.1	70.2
2	72.5	74.6	62.5	64.6	37.0	38.6	57.9	60.9
3	60.5	62.9	47.8	49.9	25.3	26.9	49.6	52.9
4	53.4	56.3	37.8	40.1	18.7	20.1	45.6	49.3
5	48.1	51.3	31.5	33.9	14.7	16.1	44.3	48.5
6	40.8	44.3	27.5	29.9	11.5	12.7	42.3	47.1
7	37.4	40.4	22.8	25.3	9.7	11.0	40.6	45.5
8	32.9	36.3	21.1	23.6	8.5	9.8	38.4	43.8
9	31.1	34.7	19.0	21.5	7.9	9.3	38.1	43.8
10	28.9	32.7	17.9	20.7	6.8	8.4	36.9	43.1

Table 4b. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by FIGO for period 1998-2014 (N=4,802).

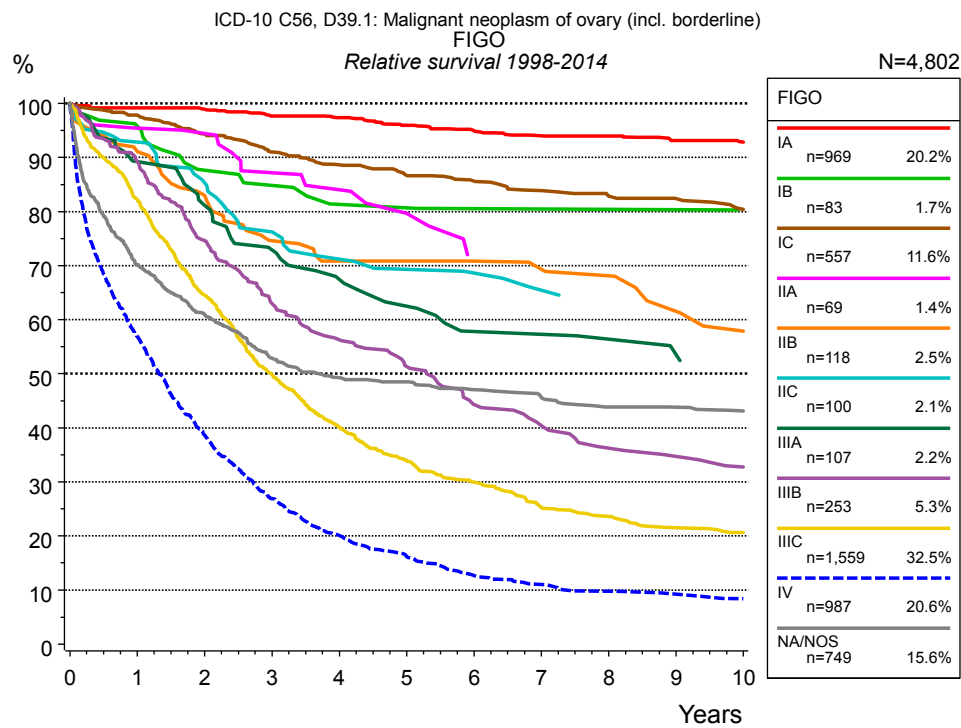


Figure 4c. Relative survival of patients with ovarian cancer by FIGO. For 5,054 of 5,551 cases diagnosed between 1998 and 2014 valid data could be obtained for this item. For a total of 4,802 cases an evaluable classification was established. The grey line represents the subgroup of 749 patients with missing values regarding FIGO (13.5% of 5,551 patients, the percent values of all other categories are related to n=4,802).

		FIGO													
		IA n=969		IB n=83		IC n=557		IIA n=69		IIB n=118		IIC n=100		IIIA n=107	
Years		obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1		98.3	99.2	95.0	95.8	96.6	97.8	94.0	95.4	89.5	91.1	92.0	92.9	88.3	89.2
2		96.8	98.9	85.6	87.6	92.2	94.3	92.5	94.4	80.2	82.9	83.4	85.3	79.2	81.1
3		94.5	97.6	82.5	84.8	87.8	91.0	84.0	87.2	71.2	74.6	74.2	76.2	70.9	72.9
4		93.2	97.4	77.6	81.3	84.7	88.6	80.0	84.0	66.8	70.9	68.1	71.2	65.0	67.4
5		90.7	95.9	77.6	80.6	81.9	86.7	73.3	79.7	66.8	70.9	65.6	69.3	60.1	62.5
6		88.7	94.9	75.6	80.5	80.0	85.6			65.2	70.8	64.2	68.6	54.4	57.8
7		86.7	94.0	75.6	80.4	77.5	83.8			63.5	69.3	60.9	65.4	54.4	57.3
8		86.2	94.0	75.6	80.4	75.3	82.8			61.8	68.1	59.2	64.0	52.4	56.4
9		83.6	93.2	75.6	80.3	74.2	82.4			55.3	61.5	59.2	63.2	49.8	53.5
10		82.3	92.9	71.4	80.1	71.8	80.4			50.2	57.9	59.2	62.4	47.2	50.3

<i>cont'd</i>	FIGO							
	IIIB n=253		IIIC n=1,559		IV n=987		NA/NOS n=749	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
Years								
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	88.2	89.2	80.9	82.2	55.4	56.9	68.1	70.2
2	72.5	74.6	62.5	64.6	37.0	38.6	57.9	60.9
3	60.5	62.9	47.8	49.9	25.3	26.9	49.6	52.9
4	53.4	56.3	37.8	40.1	18.7	20.1	45.6	49.3
5	48.1	51.3	31.5	33.9	14.7	16.1	44.3	48.5
6	40.8	44.3	27.5	29.9	11.5	12.7	42.3	47.1
7	37.4	40.4	22.8	25.3	9.7	11.0	40.6	45.5
8	32.9	36.3	21.1	23.6	8.5	9.8	38.4	43.8
9	31.1	34.7	19.0	21.5	7.9	9.3	38.1	43.8
10	28.9	32.7	17.9	20.7	6.8	8.4	36.9	43.1

Table 4d. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by FIGO for period 1998-2014 (N=4,802).

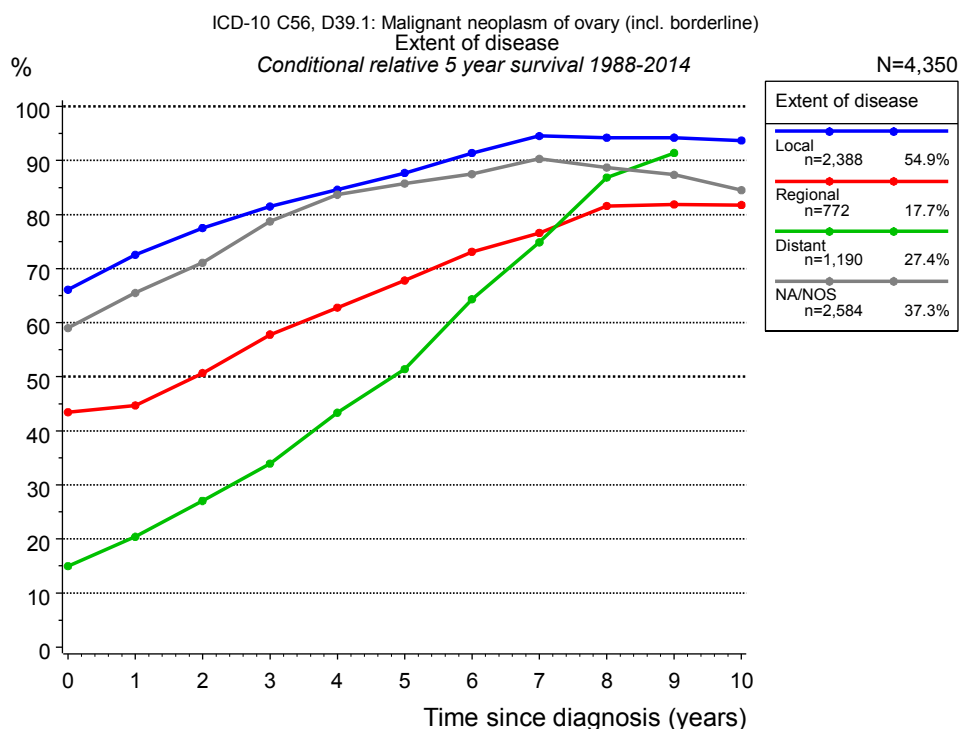


Figure 4e. Conditional relative 5-year survival of patients with ovarian cancer by extent of disease. For 6,333 of 6,934 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 4,350 cases an evaluable classification was established. The grey line represents the subgroup of 2,584 patients with missing values regarding extent of disease (37.3% of 6,934 patients, the percent values of all other categories are related to n=4,350).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	2,388	66.1	772	43.5	1,190	15.0	2,584	59.0
1	1,916	72.6	625	44.7	643	20.4	2,087	65.5
2	1,589	77.5	459	50.7	383	27.1	1,706	71.1
3	1,356	81.5	320	57.8	235	34.0	1,406	78.7
4	1,165	84.6	240	62.8	155	43.4	1,187	83.7
5	993	87.7	189	67.8	109	51.4	1,023	85.7
6	869	91.4	154	73.1	73	64.3	864	87.5
7	749	94.5	127	76.6	52	74.9	705	90.3
8	652	94.2	103	81.6	39	86.9	580	88.7
9	559	94.2	87	81.9	31	91.4	494	87.4
10	505	93.7	82	81.8			407	84.5

Table 4f. Conditional relative 5-year survival of patients with ovarian cancer by extent of disease for period 1988-2014 (N=4,350).

Conditional relative survival rates refer to the relative survival probability, in this case for 5 years after cancer diagnosis, compared to the age- and sex-matched population (=100%) under the condition of being alive for a certain time period (x-axis in Figure 4c). The results illustrate to what extent the cancer induced mortality of particular subgroups declines in the subsequent years after detection of the malignancy. For instance, according to the presented survival statistics, patients in the subgroup extent of disease="Local", who are alive at least 3 years after cancer diagnosis, the conditional relative 5-year survival rate is 81.5% (n=1,356).

Shortcuts

MCR Munich Cancer Registry, Germany

NCI National Cancer Institute, USA

SEER Surveillance, Epidemiology, and End Results, USA

UICC Union for International Cancer Control, Geneva

DCO Death certificate only Death certificate provides the only notification to the registry.

NA Not available

NOS Not otherwise specified

OS Overall/Observed survival Overall/Observed survival (Kaplan-Meier estimate)

Date of entry: diagnosis
Event: death from any cause

RS Relative survival Survival compared to “general population”, ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival

AS Assembled survival Assembled chart of observed, expected, relative survival

CS Conditional survival Survival probability under the condition of surviving a given period of time

TTP Time to progression Time to first progression / relapse
Date of entry: diagnosis
Event: (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression

1-KM 1 minus Kaplan-Meier estimator (“inverse” Kaplan-Meier estimator)

CI Cumulative incidence
Death as competing risk (according to Kalbfleisch und Prentice)

PPS Post-progression survival Survival since first progression / relapse (Kaplan-Meier estimate)
Date of entry (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression
Event: death from any cause

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